

# Organ Donation in Saskatchewan

## A Lung Transplant Physician's Perspective

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**Lung transplantation is a lifesaving procedure  
that also improves quality of life**

# A little about me

- Born and raised in Saskatoon
- Medical school at U of S
- Specialty training in Internal Medicine and subspecialty training in Respiriology at the U of S
- Further training in Sleep Medicine at U of S
- Clinical Fellowship in Lung Transplantation at University of Alberta

# Background

Evaluation, work-up and arrangements for active listing of Saskatchewan residents who have end-stage lung disease at the University of Alberta Lung Transplant Program

Post-transplant management and care

# Saskatchewan Lung Transplant Clinic

- Established 2008
- Multidisciplinary clinic that includes two nurses/transplant coordinators, a pharmacist, a social worker and 2 physicians
- Partnership with the University of Alberta Lung Transplant Program that also includes University of Calgary and University of Manitoba



# SK Transplant Clinic

Number of referrals since 2008 = 214

Number listed = 71

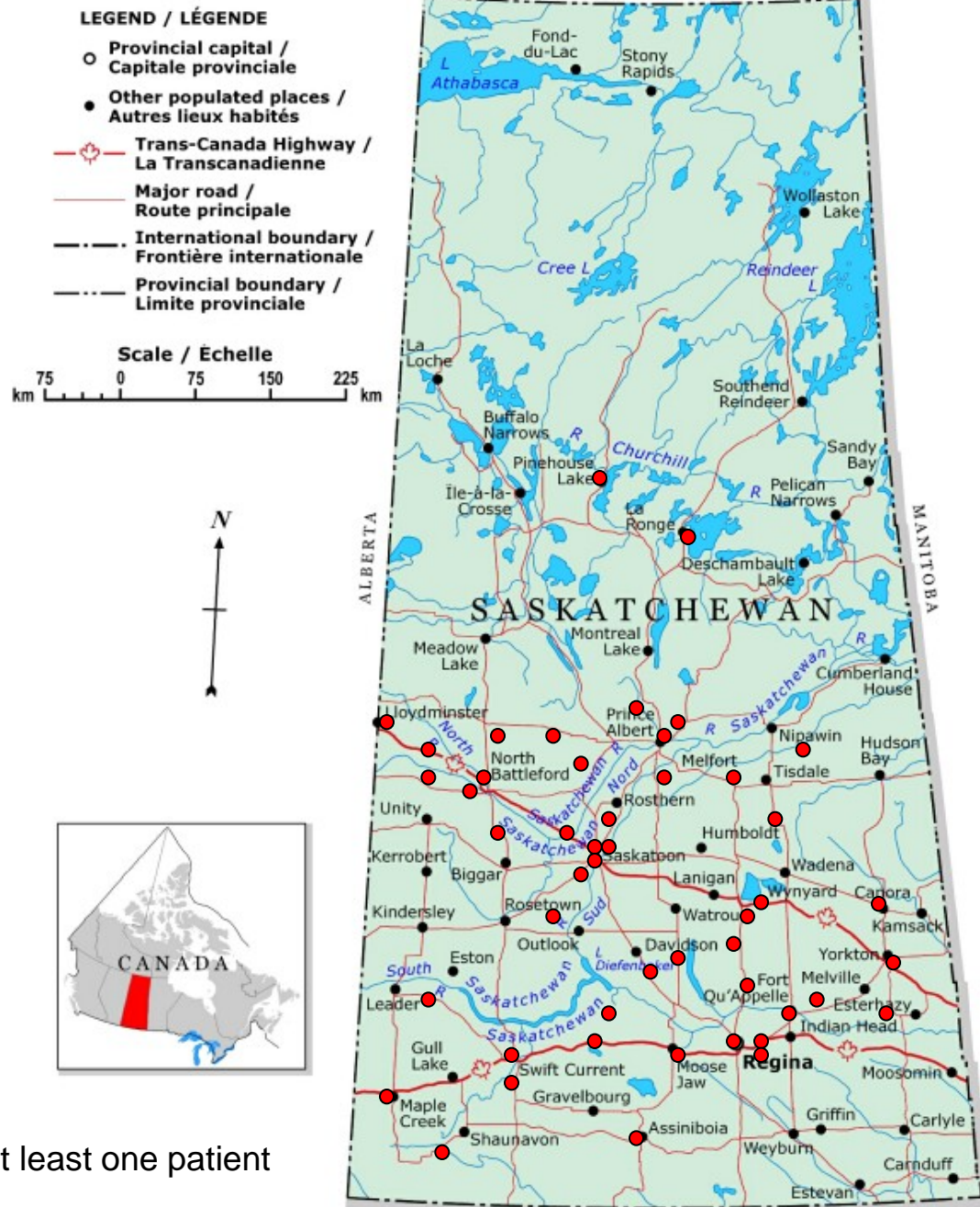
Number transplanted = 45

Number of referrals so far in 2016 = 32

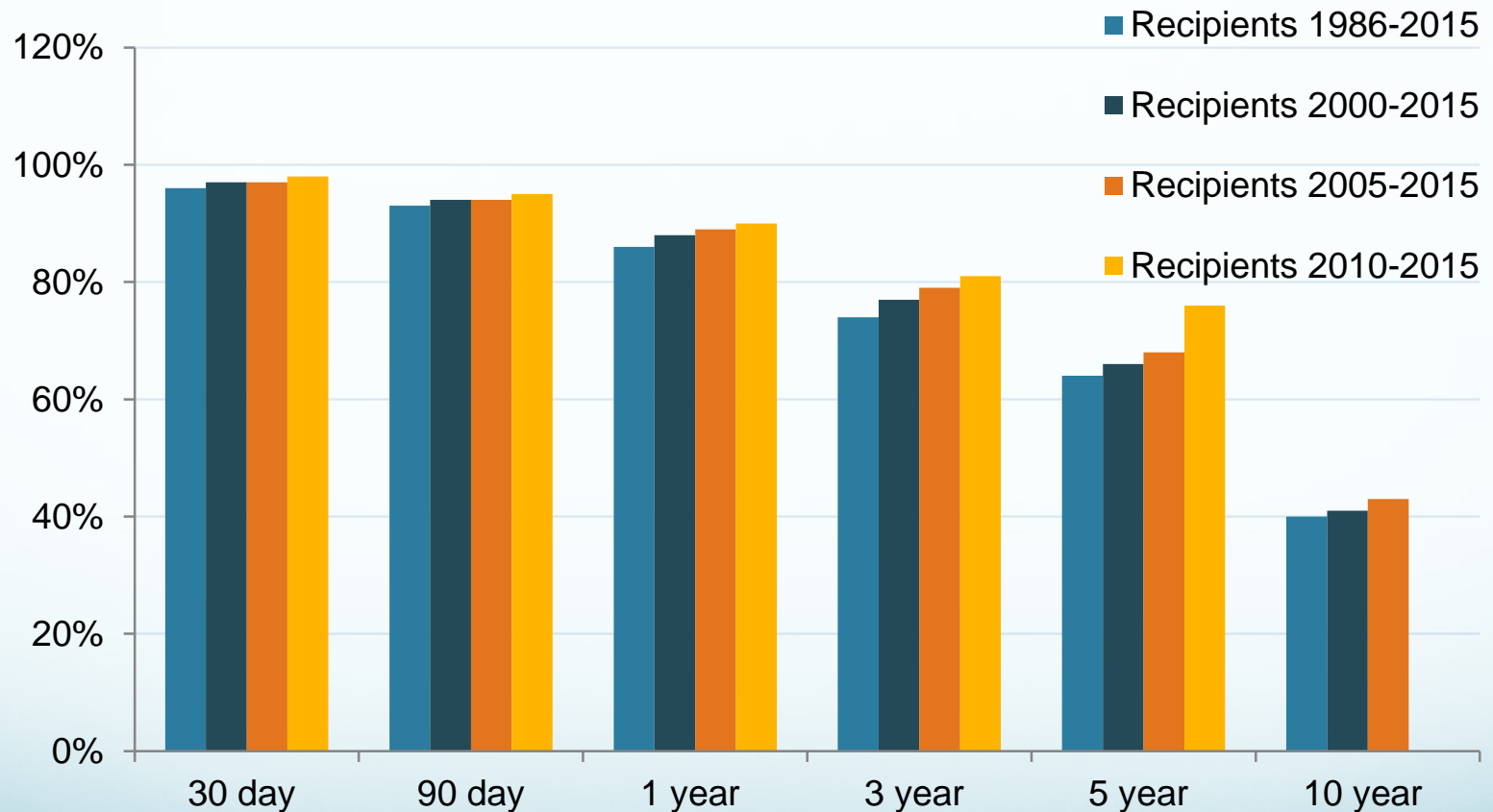
Current status 1/2 = 8

Current status 0 = 8

Current number of post-transplant patients = 43

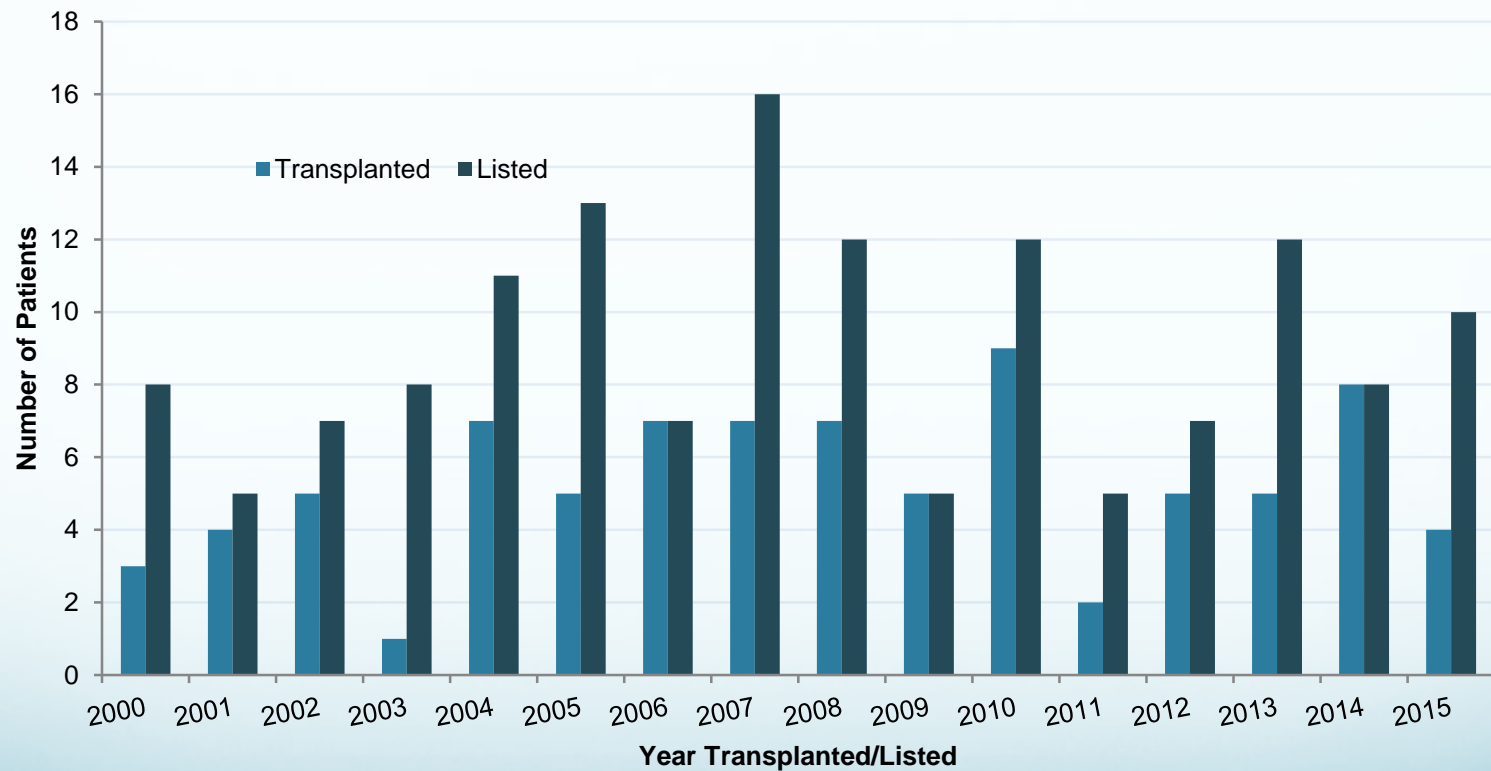


# Survival From First Transplant to Death (separated by eras)



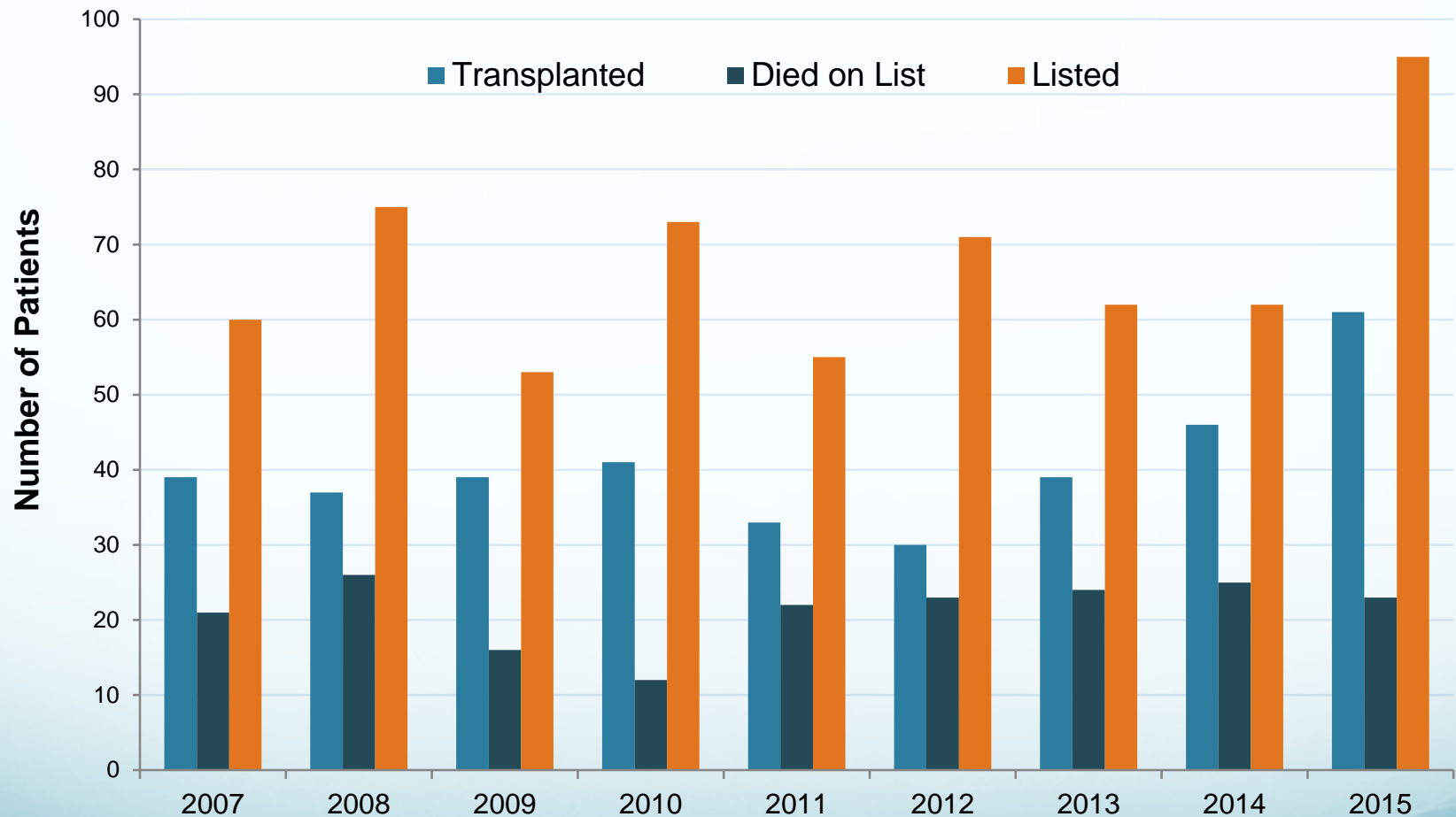
# Demand is greater than supply

**Saskatchewan Patients Listed and Transplanted 2000-2015**

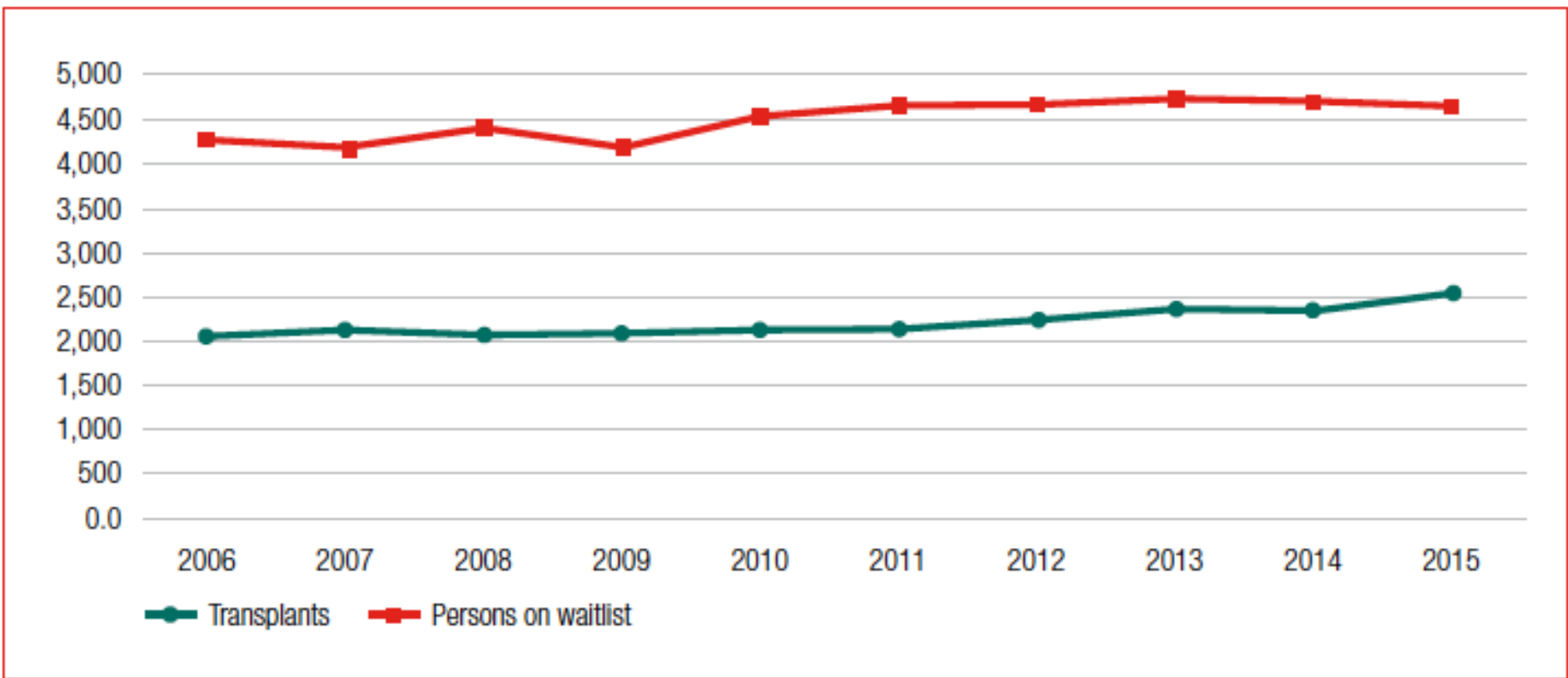




## Number of Patients Transplanted, Listed and Died on the List (2007-2015)

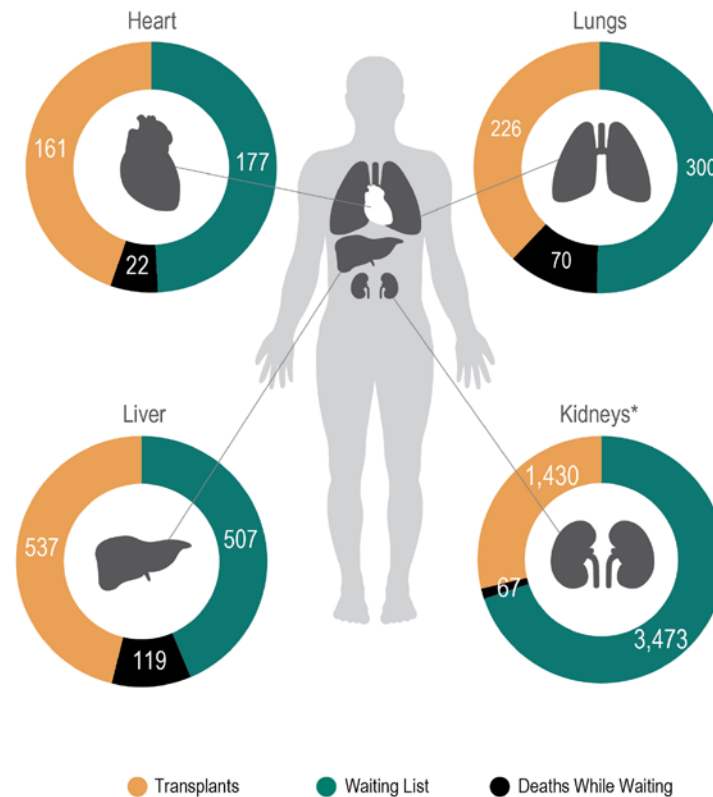


**Figure 49:** Transplants versus people waiting for transplants in Canada, 2006–2015



# Organs Required by Canadians in 2014

## Donations and Need



 **65%** of kidney donations were from deceased donors

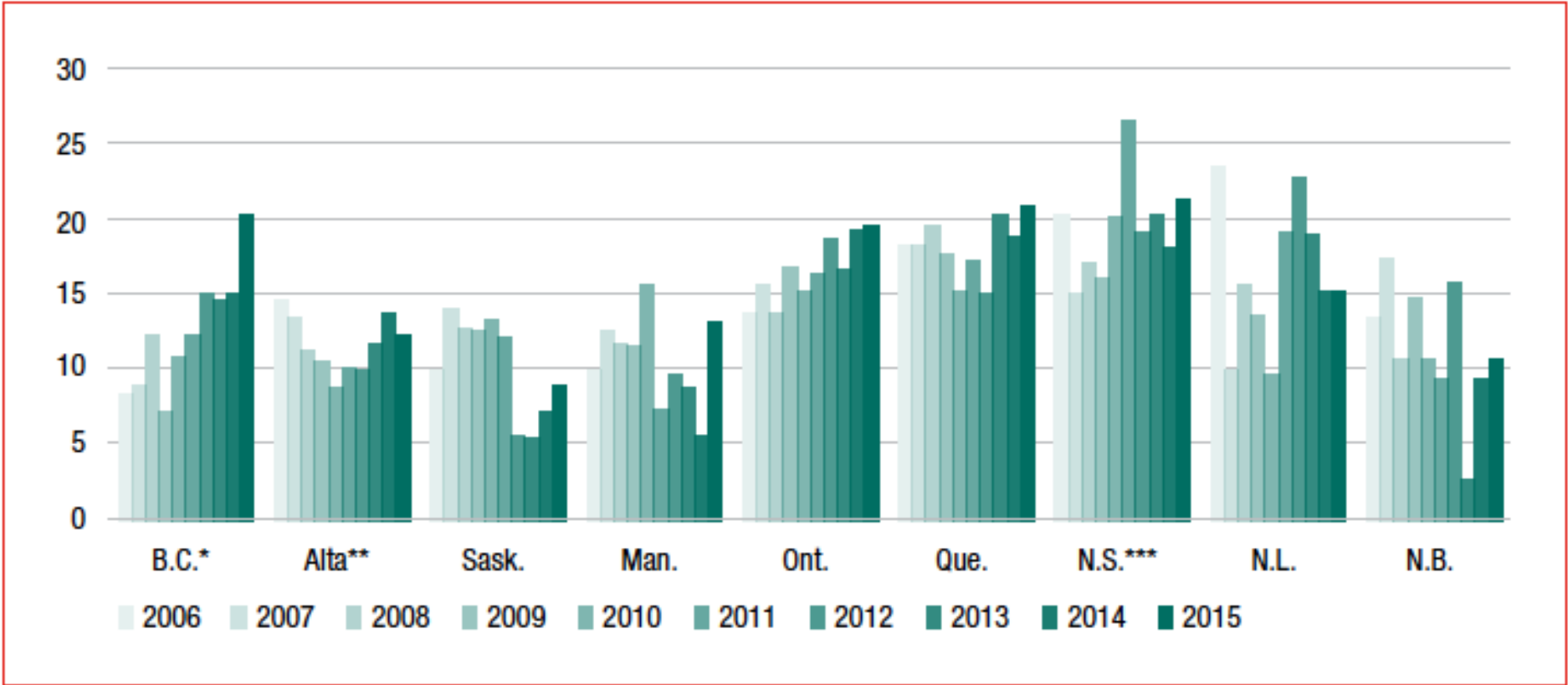
**Note**

\* Where possible, totals include simultaneous kidney-pancreas transplants.

**Source**

Canadian Organ Replacement Register, 2015, Canadian Institute for Health Information.

# Deceased donors per million population by province and year, 2006–2015



\* The population of Yukon is included in the calculation of these rates, as per Canadian Institute of Health Information standards.  
\*\* The populations of Nunavut and the Northwest Territories are included in the calculation of these rates, as per CIHI standards.  
\*\*\* Donors from Prince Edward Island are included in the calculation of these rates.

# Potential donors are already there but not being realized

**Deaths, estimates, by province and territory**

	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
	number				
<b>Canada</b>	<b>244,968</b>	<b>243,651</b>	<b>252,309</b>	<b>256,982</b>	<b>268,056</b>
Newfoundland and Labrador	4,541	4,614	4,737	4,849	4,960
Prince Edward Island	1,176	1,261	1,285	1,311	1,338
Nova Scotia	8,621	8,595	8,783	8,966	9,150
New Brunswick	6,467	6,466	6,653	6,832	7,002
Quebec	60,125	58,859	61,750	61,050	65,350
Ontario	90,857	89,988	93,435	96,883	100,327
Manitoba	10,264	10,214	10,396	10,588	10,776
Saskatchewan	9,393	9,428	9,557	9,684	9,798
Alberta	21,306	21,491	22,353	23,233	24,096
British Columbia	31,700	32,173	32,777	32,985	34,633
Yukon	189	204	214	221	232
Northwest Territories	173	187	193	198	205
Nunavut	156	171	176	182	189

**Notes:**  
 Period from July 1 to June 30.  
 The numbers for deaths are final up to 2011/2012, updated for 2012/2013 and 2013/2014 and preliminary for 2014/2015.  
 Preliminary and updated estimates of deaths were produced by Demography Division, Statistics Canada. Final data were produced by Health Statistics Division, Statistics Canada.  
 However, the final estimates included in this table may differ from the data released by the Health Statistics Division, due to distribution of unknown province.  
**Source:** Statistics Canada, CANSIM, table [051-0004](#) and Catalogue no. [91-215-X](#).  
 Last modified: 2015-09-29.

2/3 die in hospital (=6565)

1.4% are potential donors

= 91 potential donors in 2015

(compared to approximately 10 over that time frame)

# Where does the current model break down?

## Multiple points

- Stickers on health card are non-binding and can be over-ridden by NOK
- Poor public awareness
- Misconceptions in the public
- Medical System
  - Lack of donation specialists
  - Lack of mandatory referral
  - DCD not implemented
  - Budgetary/bed/patient flow issues
  - Resources
- Geography

### ORGAN AND TISSUE DONOR STICKER

The red organ and tissue donor sticker on a Saskatchewan Health Services card confirms a person's wishes for donation with healthcare providers and loved ones. Stickers are available by calling the Saskatchewan Transplant Program at 1-306-655-5054 in Saskatoon.

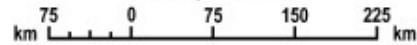


**Note:** In Saskatchewan, organ and tissue will not be donated without your family or next-of-kin's consent, even if the organ and tissue donor sticker is on your health card. [Talk to your family](#) about your decision to donate.

- **Provincial capital / Capitale provinciale**

- Other populated places / Autres lieux habités
- Trans-Canada Highway / La Transcanadienne
- Major road / Route principale
- International boundary / Frontière internationale
- Provincial boundary / Limite provinciale

**Scale / Échelle**



# What can we do better or differently?

## **Public**

- Survey SK residents about their opinion/beliefs on organ donation and explore possible barriers
- Increase awareness and promote discussion among families
- Dispel misconceptions
- Engage thought leaders to enter the discussion on a public scale
- Consider a registry linked to personal health number

# What can we do better or differently?

## Policy

- Consider opt-out model (**opportunity to lead the rest of the country**)
- Further develop a provincial organ donation organization with dedicated funding independent of individual regional health authority budgets
- Invest in relevant technologies

# What can we do better or differently?

## **Medical system**

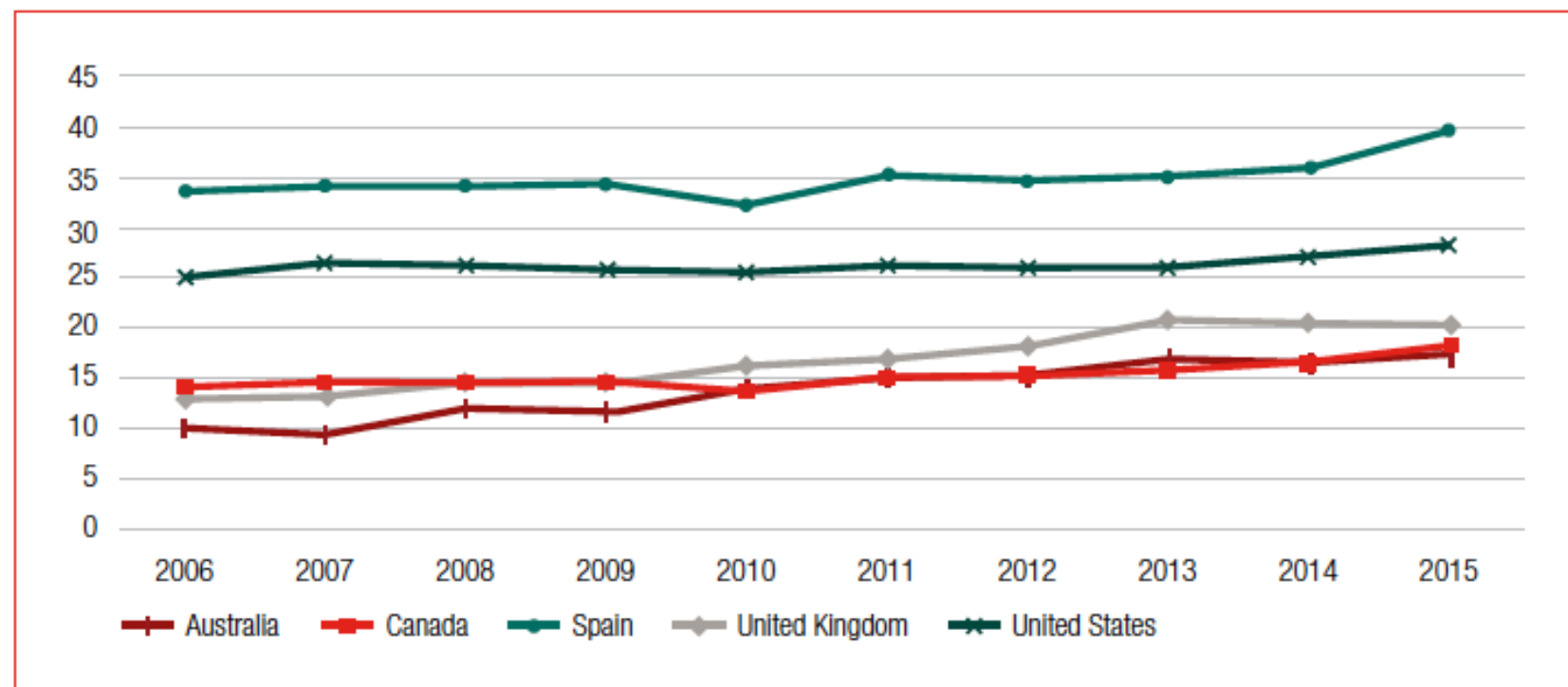
- Introduce donation specialists
- Introduce mandatory referral of potential donors to SK Transplant
- Operationalize the plan for DCD
- Dedicated ODO that is distinct from post-transplant
- Professional education about organ donation
- Foster a culture that champions organ donation

# What can we do better or differently?

## **Geography**

- Mandatory referral to tertiary centres
- Consider taking the team to the donor rather than donor to team

## International deceased donation rates, 2006–2015 (DPMP\*\*)



\* This target was proposed in *Call to Action*, a strategic plan to improve organ and tissue donation and transplantation performance for Canadians. This document can be found at [blood.ca](http://blood.ca).

\*\* Although the DPMP measure has been criticized as not being an accurate indication of donation performance, it is still widely used for comparative purposes. For this metric, most countries report actual donors, a figure that only requires an organ to be removed or an incision made in the operating room for the purposes of transplantation. Canada, however, reports utilized donors, a metric that requires at least one organ to have been transplanted into a patient. Annual reports on organ donation and transplantation activity issued by the National Health Service in the United Kingdom (2012–2015) estimate differences of between four to eight per cent when comparing actual donors and utilized donors.

	B.C.	ALTA.	SASK.	MAN.	ONT.	QUE.	N.B.	N.S.	N.L.
Mandatory referral	●	●*	■	●	●	●	●	▲	■
Donation physicians	●	▲	■	●	●	▲	■	▲	■
NDD leading practices	●	●	●	●	●	●	●	●	●
DCD programs	●	▲	▲	▲	●	●	■	●	■
% DCD donors, 2015	25	13	10	0	31	11	0	15	0
Leading practices in donor management	●	●	●	●	●	●	●	●	●
<b>Deceased donors, 2015 (DPMP)</b>	<b>20.1**</b>	<b>12.2***</b>	<b>8.8</b>	<b>13.1</b>	<b>19.5</b>	<b>20.8</b>	<b>10.6</b>	<b>21.2****</b>	<b>15.2</b>
<b>Number of donors, 2015</b>	<b>95</b>	<b>52</b>	<b>10</b>	<b>17</b>	<b>269</b>	<b>172</b>	<b>8</b>	<b>20</b>	<b>8</b>
<b>2011–2015 % change in DPMP</b>	<b>76</b>	<b>33</b>	<b>-17</b>	<b>89</b>	<b>22</b>	<b>26</b>	<b>14</b>	<b>-20</b>	<b>-20</b>

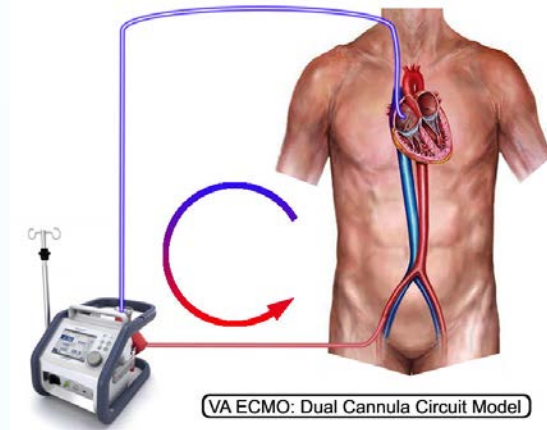
- Implementation complete or near completion
- ▲ Implementation in progress
- Implementation not started

# What does it mean to increase the rate of organ donation and transplantation

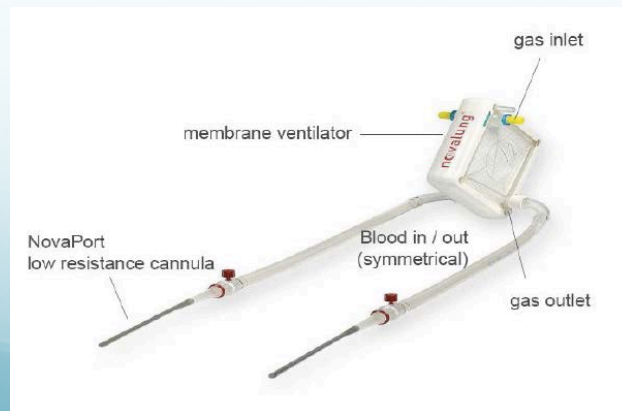
- Little direct impact on demand
- Positive impact on wait-list mortality and wait times
- Increased numbers of post-transplant patients
- Increased use of bridging therapies in those awaiting transplant
- Increased use of technologies to expand the donor pool

# Bridging to transplant

- Extra-corporeal membrane oxygenation

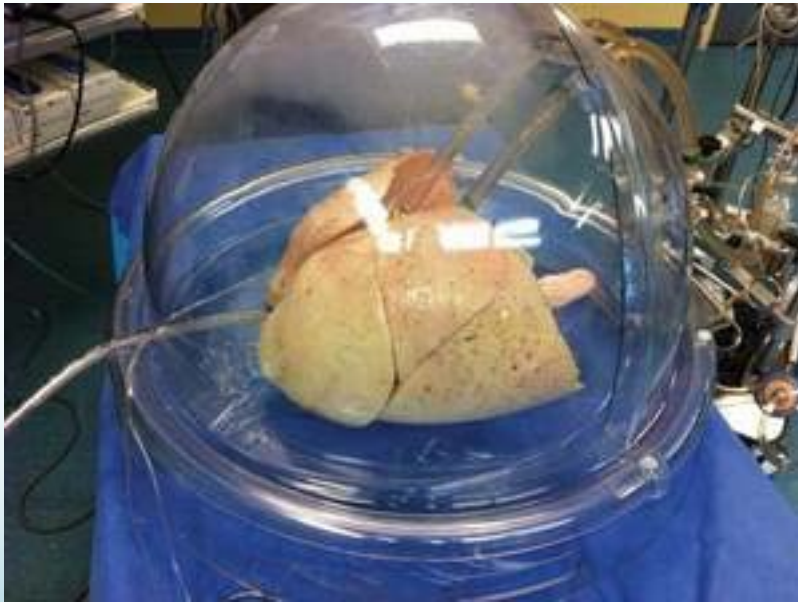


- Novalung membrane ventilator



# Ex-vivo technology

- Technology that allows for resuscitation of a marginal donor organ that otherwise would go un-used



Cypel *et al*/NEJM 2011;264:1431-40



# Recommendations

1. Consult/survey the people of SK about this issue to inform strategies to enhance public awareness and participation
2. Introduce donation specialists
3. Introduce mandatory referral of potential donors
4. Implement DCD
5. Dedicated funding for organ donation organization
6. Direct funding from MOH for all transplant-related activities that is independent of regional health authority budgets
7. Invest in/support technologies for resuscitation of donor organs and bridging of recipients

Thanks for listening